No. 200000047

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

The Regents of the University of California

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE , OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, COMMON

'Kern'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twelfth day of September, in the year two thousand one.

PLANT VARIETY PROTECTION OFFICE · AGRICULTURAL MARKETING SERVICE · DEPARTMENT OF AGRICULTURE

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

UC Case No. 2000-107-1

REPRODUCE LOCALLY. *Include form number and date on all reproductions*

Form Approved - OMB No. 0581-005

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1 NAME OF OWNER
The Regents of the University of California

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME
UC 1036

3. VARIETY NAME
Kern

4 ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
1111 Franklin Street, 12th Floor
Oakland, California 94607-5200

5. TELEPHONE *(include area code)*
(510) 587-6000

6. FAX *(include area code)*
(510) 587-6090

FOR OFFICIAL USE ONLY

PVPO NUMBER
2000047

FILING DATE
10/28/99

7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)*
Corporation

8. IF INCORPORATED, GIVE STATE OF INCORPORATION
California

9. DATE OF INCORPORATION
June 18, 1868

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*
Benton S. Duffett, Jr. and R. Danny Huntington
Burns, Doane, Swecker & Mathis, L.L.P.
P.O. Box 1404
Alexandria, Virginia 22313-1404

FEES RECEIVED

FILING AND EXAMINATION FEES:
$ 2450.00
DATE 10/28/99

CERTIFICATION FEE:
$ 320.00
DATE 8/16/01

11. TELEPHONE *(include area code)*
(703) 838-6602

12. FAX *(include area code)*
(703) 836-2021

13. E_MAIL
bend@burnsdoane.com

14. CROP KIND *(Common Name)*
wheat

15 GENUS AND SPECIES NAME OF CROP
Triticum aestibum

16. FAMILY NAME *(Botanical)*
Gramineae

17. IS THE VARIETY A FIRST GENERATION HYBRID?
☐ YES ☒ NO

18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)

a. ☒ Exhibit A. Origin and Breeding History of the Variety
b. ☒ Exhibit B. Statement of Distinctness
c. ☒ Exhibit C. Objective Description of Variety
d. ☐ Exhibit D. Additional Description of the Variety *(Optional)*
e. ☒ Exhibit E. Statement of the Basis of the Owner's Ownership
f. ☒ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)*
g. ☒ Filing and Examination Fee ($2,450), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)*

19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? *See Section 83(a) of the Plant Variety Protection Act)*
☒ YES *(If "yes", answer items 20 and 21 below)* ☐ NO *(If "no," go to item 22)*

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ YES ☒ NO

21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?
☐ YES ☒ NO
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. *(Please use space indicated on reverse.)*

23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT *(PLANT BREEDER'S RIGHT OR PATENT)*?
☐ YES ☒ NO
IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. *(Please use space indicated on reverse.)*

24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER
Linda S Stevenson

NAME *(Please print or type)*
Linda S. Stevenson

CAPACITY OR TITLE
Principal Prosecution Analyst

DATE
10-26-99

SIGNATURE OF OWNER

NAME *(Please print or type)*

CAPACITY OR TITLE

DATE

Exhibit A. Origin and Breeding History of Kern.

'Kern' is a hard red spring wheat variety selected from the cross Tadorna/Inia 66//Yecora Rojo/3/Klasic (CA830182-0D-2ST-4ST-1ST-3ST-1ST-3D-4ST-0D-0D-0D-0D-0D). A sibling of Tadinia (Tadorna/Inia 66, Exp. 82050 Row 998) was crossed with Yecora Rojo in 1982. The hybrid Tadorna/Inia 66//Yecora Rojo (CA82179) was crossed with Klasic in 1983, creating the three-way hybrid Tadorna/Inia 66//Yecora Rojo/3/Klasic (CA830182). F_1 plants were grown in the summer nursery 1983. In fall 1983 F_2 seed was planted as bulk in the field at Davis (84PM/1912). In fall 1984, the F_3 seed was planted as a bulk in the field at Davis in a Septoria Bulk Breeding Plot (Exp. 85070) to select for resistance to Septoria tritici blotch (STB). Eight heads were selected from Exp. 85070 plot 64 and advanced as F_4 single headrows to the Septoria screening nursery (Exp. 86070). Twelve heads were selected from Exp. 86070 plot 412 and advanced as twelve F_5 headrows to the Septoria screening nursery (Exp. 87060). From those twelve F_5 headrows, three were selected, including row 11368, on the basis of agronomic appearance and resistance to Septoria tritici blotch. Based on SDS sedimentation tests, the F_6 seed from row 11368 was advanced to a Preliminary Septoria Yield Trial (Exp. 88025). This line was advanced to preliminary, advanced, and elite yield trials over the next five years. In 1994, it was entered into regional testing as UC1036 and was evaluated in the UC Regional Common Wheat Test Program in 1994, 1995, 1996 (only Imperial Valley), 1997, 1998, and 1999 and tested for milling and baking quality. In 1997 and 1998 UC1036 was tested in the What Collaborative Quality Test program. Farm strip trials were conducted in Yolo and Sacramento Counties in 1998. Fifteen hundred F_{15} heads were selected in 1997 at Davis and planted head-to-row at the UC Intermountain Research and Extension Center at Tulelake in April 1998. These head rows were examined for uniformity and about 1300 were harvested in bulk and designated as Breeders Seed Class and transferred to the Foundation Seed Program in 1998. In 1999, UC1036 was recommended for released by the Germplasm Release and Certification Technical Committee of the Department of Agronomy and Range Science. The name Kern has been approved for UC1036.

Exhibit B. Statement of distinctiveness.

Kern is a hard red spring wheat. It is a short-statured variety with a mid-season heading time (six days later than Yecora Rojo). Kern has a mid-dense spike, fully awned with a straight peduncle. Glumes are white, glabrous with short awns and occasionally show a distinctive blackening (pseudo-black chaff). It has tendency to shattering similar to Yecora Rojo but better resistance to lodging and higher yield potential. Kern has broad adaptation to California environments and adequate levels of resistance to leaf rust, stripe rust and Septoria tritici blotch. It has intermediate grain protein content, excellent flour yield, intermediate to low flour water absorption, good mixing properties and loaf volume and an overall good breadmaking quality. High molecular weight glutenins subunits (HMW-GS) in Kern are *Glu-A1*: 1, *Glu-B1*: 13+16, *Glu-D1*: 5+10. This HMW-GS differentiates Kern from other California wheat varieties like Anza, Yecora Rojo, RSI5, Express, Klasic, Serra, Yolo, and Tadinia. Kern has a glycine-to-serine mutation in the puroindoline b locus (*Pinb-5D*) that is characteristic of many hard bread wheat varieties.

Exhibit C. Objective Description of Variety.

Re: U.S. Plant Variety Protection Application No. 200000047
The Regents of the University of California
'Kern' Wheat Variety (formerly UC1036)
U.C. Case No. 2000-107-1

Addendum to PVP application for Kern (UC1036)

Exhibit A. Origin and Breeding History of Kern.
Uniformity and stability: Breeders seed for Kern was produced from selected headrows after 13 generations of self-pollination resulting in an almost completely homozygous line. Kern was observed to be uniform and stable during the UC Regional Common Wheat Test Program in 1994, 1995, 1996, 1997, 1998, 1999, and 2000. No variants in height, flowering time, high molecular weight glutenins, or grain color were observed. During the production of Breeders seed, the few observed off types plants (<1/20,000) were eliminated before harvesting. The Foundation Seed field planted from the Breeders seed for Kern was inspected by the California Crop Improvement Association and approved for uniformity.

Exhibit B. Statement of distinctiveness.
Kern is a short-stature hard red spring wheat derived from a cross including Yecora Rojo. Yecora Rojo is the most similar in appearance to the cultivar Kern. Kern can be differentiated from Yecora Rojo for its resistance to septoria tritici blotch (Table 1), resistance to leaf rust (Table 2), later heading date (Table 3), and different high molecular weight glutenin and hardness alleles. Statistical data for these differences is provided below. Data on tables 1 to 3 were obtained from the Agronomy Progress Reports, published by the University of California, Davis (L. Jackson et al. 1994, 1995, 1996, 1997, 1998, 1999,2000. "Regional barley, common and durum wheat, triticale, and oat performance tests" in California, Agronomy Progress Report, UC Davis). Location of the trials and sowing and harvesting dates are available in the published reports. Observations in regional trials were made on plots six drill rows wide and 25 feet long sown at 1.2 million seeds per acre.

Septoria Tritici Blotch: Kern has resistance gene *Stb4* for septoria tritici blotch derived from Tadorna, which is absent in Yecora Rojo (Somasco et al. 1996. Plant Breeding 115: 261-267). Presence of this gene has resulted in significant lower scores for this disease in 24 year-locations (Table 1).

Table 1. **Septoria Tritici Blotch** scores as published in UCD Agronomy Progress Reports for Regional Performance Tests 1994-2000. Rating scale for diseases (area of flag-1 leaf affected at soft dough stage): 1= 0-3%, 2= 4-14%, 3=15-29%, 4= 30-49%, 5= 50-69%, 6=70-84%, 7=85-95%, 8=96-100%. Experiments with scores= 1 for all varieties were eliminated assuming absence of the disease. Data was analyzed using SAS in a paired *t*-test.

Year-Location combinations	Kern	Yecora Rojo
1994 Butte	1.3	7.5
1994 Sutter	1.3	5
1994 UC Davis	1.8	5.5
1994 Delta	1	1.8
1994 Merced	1	2.8
1995 Butte	1	8
1995 Colusa	2	8
1995 UC Davis	1.3	8
1995 Delta	7.3	8
1996 Colusa	3.3	7.5
1996 Yolo	1.5	2.3
1997 Colusa	1	8
1997 Glenn	2	8
1997 UC Davis	1	5.7
1998 Butter	1.8	6.8
1998 Colusa	3.8	8
1998 Kings	1	3
1998 Madera	1	2.3
1998 Sutter	3.5	8
1998 UC Davis	2	8
1999 Butte	1.3	2
1999 Colusa	3.5	7.3
1999 Sutter	1	2
1999 UC Davis	1.3	3.8
2000 Colusa	3.3	4.5
2000 Sutter	1.8	6.8
2000 UC Davis	1.0	1.5
Average	**1.97**	**5.56**
Confidence Interval (95.0%)	1.41-2.52	4.57-6.55

Results from statistical analysis. The paired *t*-test for the 27 year-location combinations showed that Yecora Rojo disease scores were significantly higher than Kern disease scores (t= 8.3, P<0.0001). Normality of the differences was confirmed by Kolmogorov-Smirnov test (D= 0.143, P>0.15).

Leaf rust resistance: Testing at the Cereal Rust Laboratory at Minnesota in 1996 showed that Kern is resistant to virulence combinations TDGL and TLGG and that Yecora Rojo is susceptible to these virulence combinations (UCD Agronomy Progress Report No. 254).

Table 2. Leaf rust resistance scores as published in UCD Agronomy Progress Reports for Regional Performance Tests 1994-2000. Rating scale for diseases (area of flag-1 leaf affected at soft dough stage): 1= 0-3%, 2= 4-14%, 3=15-29%, 4= 30-49%, 5= 50-69%,

6=70-84%, 7=85-95%, 8=96-100%. Experiments with scores 1 for all varieties were eliminated assuming absence of the disease.

Year-Location combinations	Kern	Yecora Rojo
1994 Sutter	1.0	3.0
1994 UC Davis	1.0	2.5
1994 Delta	1.0	4.3
1994 Merced	1.0	5.5
1994 Kings	1.0	4.0
1994 Kerns	1.3	4.8
1995 Colusa	1.0	2.8
1995 Sutter	1.3	3.5
1995 UC Davis	1.0	4.0
1995 Merced	1.0	5.0
1995 Kings	1.0	3.5
1995 Kern	1.3	3.8
1997 Glenn	1.3	1.3
1997 UC Davis	1.7	2.7
1997 Merced	1.0	2.0
1997 Kings	2.0	5.5
1997 Kern	1.0	4.8
1998 Madera	1.0	3.3
1998 Kings	1.0	2.3
1998 Kern	1.0	1.3
1999 Butte	1.0	1.3
1999 Madera	1.8	3.8
2000 Butte	1.0	2.0
2000 Colusa	1.3	2.8
2000 Sutter	1.0	1.3
2000 UC Davis	1.0	4.5
2000 Delta	1.8	4.0
2000 Madera	2.5	6.5
2000 Kings	1.0	1.8
2000 Kern	1.0	2.5
Average	**1.21**	**3.45**
Confidence Interval (95.0%)	1.07-1.35	2.83-3.87

Results from statistical analysis. The paired *t*-test for the 30 year-location combinations showed that Yecora Rojo disease scores were significantly higher than Kern disease scores (t= 9.2, P<0.0001). Normality of the differences was confirmed by Kolmogorov-Smirnov test (D= 0.093, P>0.15).

Heading date: Kern flower two to nine days later than Yecora Rojo in the two locations analyzed over 7 years.

Table 3. Days to heading after January 1 as published in UCD Agronomy Progress Reports 1994-2000. Heading date was recorded as the date when spikes have emerged from 50% of the plants from one plot.

Year-Location combinations	Kern	Yecora Rojo
1994 UC Davis	97	95
1994 Imperial Valley	73	71
1995 UC Davis	109	104
1995 Imperial Valley	72	63
1996 Imperial Valley	74	70
1997 UC Davis	82	76
1997 Imperial Valley	83	76
1998 UC Davis	96	87
1998 Imperial Valley	81	74
1999 UC Davis	102	99
1999 Imperial Valley	81	74
2000 UC Davis	88	79
2000 Imperial Valley	77	69
Average	**85.8**	**79.8**
Confidence Interval (95.0%)	78.6-92.9	72.2-87.7

Results from statistical analysis: Heading date of Kern was an average of 6 days later than that of Yecora Rojo (range 2 to 9 days later). The paired *t*-test for the 13 year-location combinations showed that Kern is significantly later than Yecora Rojo (t= 8.4, P<0.0001). Normality of the differences was confirmed by Kolmogorov-Smirnov test (D= 0.189, P>0.15).

High molecular weight glutenins subunits (HMW-GS): HMW-GS in Kern are *Glu-A1*: 1, *Glu-B1*: 13+16, *Glu-D1*: 5+10. *Glu-B1* bands in Kern (13+16) are different from those present in Yecora Rojo (*Glu-B1*: 17+18) and from most California wheat varieties including Anza, RSI5, Express, Klasic, Serra, Yolo, and Tadinia. Kern also differs from Yecora Rojo at the *Hardness* locus. Kern has alleles *pinB-D1b / pinA-D1a* and Yecora Rojo has alleles *pinB-D1a / pinA-D1b.*

Differences between 'Jefferson' and 'Kern'

The high molecular weight glutenins subunits (HMW-GS) provide a simple way to differentiate Kern from Jefferson using protein electrophoresis. *Glu-B1* bands in Kern (13+16) are different from those present in Jefferson (*Glu-B1*: 17+18).

An additional difference is the presence of septoria resistance gene *Stb4* in Kern (resistant to septoria tritici blotch) and its absence in Jefferson (moderately susceptible to septoria tritici blotch, Crop Science 1999: 39:296-297).
Kern is resistant to leaf rust and Jefferson is moderately susceptible to leaf rust (Crop Science 1999: 39:296-297).

Finally, height may be also used to differentiate Jefferson from Kern. Jefferson is 91 cm tall on average (Crop Science 1999: 39:296-297) and Kern is 86.5 cm tall. Based on measures over 25 year-location combinations (1995 Colusa, 1995 Kern, 1995 Kings, 1995 Merced, 1995 UCD, 1997 Colusa, 1997 Glenn, 1997 Kings, 1997 Merced, 1997 UCD, 1998 Exp. 98010, 1998 Exp. 98011, 1998 Exp. 98012, 1998 Exp. 98016, 1998 Exp. 98020, 1998 Exp. 98021, 1998 Exp. 98022, 1998 Exp. 98023, 1998 Butte, 1998 Colusa, 1998 Kern, 1998 Kings, 1998 Madera, 1998 Sutter, 1998 UC Davis) the 95% confidence interval for Kern height is 83.0-90.2 cm.

These two lines are adapted to different environments and have not been grown in common trials in California nor Idaho. Jefferson is adapted to rainfed and irrigated production at elevations above 1200m (Crop Science 1999: 39:296-297), whereas Kern is adapted to the Central Valley of California.

REPRODUCE LOCALLY. Include form number and date on all reproductions.

Form Approved - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT C
(*Wheat*)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (*Triticum* spp.)

NAME OF APPLICANT(S)
The Regents of the University of California

ADDRESS (Street and No. or RD No., City, State, and Zip Code)
1111 Franklin Street, 12th Floor
Oakland, California 94607-5200

FOR OFFICIAL USE ONLY
PVPO NUMBER 2000000047

VARIETY NAME
Kern

TEMPORARY OR EXPERIMENTAL DESIGNATION
UC 1036

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g. [0][9][9] or [0][9]) when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used:
Please answer all questions for your variety; lack of response may delay progress of your application.

1. KIND:

[1] 1=Common 2=Durum 3=Club 4=Other (SPECIFY) : _____

2. VERNALIZATION:

[1] 1=Spring 2=Winter 3=Other (SPECIFY) : _____

3. COLEOPTILE ANTHOCYANIN:

[1] 1=Absent 2=Present

4. JUVENILE PLANT GROWTH:

[3] 1=Prostrate 2=Semi-erect 3=Erect

5. PLANT COLOR (boot stage):

[2] 1 = Yellow-Green 2 = Green 3 = Blue-Green

6. FLAG LEAF (boot stage):

[2] 1 = Erect 2 = Recurved [1] 1 = Not Twisted 2 = Twisted

7. EAR EMERGENCE:

[0][1] Number of Days Earlier Than RSI5 *

[0][6] Number of Days Later Than Yecora Rojo *

8. ANTHER COLOR:

2000000471

[1] 1 = Yellow 2 = Purple

9. PLANT HEIGHT (from soil to top of head, excluding awns):

[0][2] cm Taller Than Yecora Rojo (non-significant difference) *

[0][9] cm Shorter Than Express *

* Relative to a PVPO-Approved Commercial Variety Grown in the Same Trial

10. STEM:

A. ANTHOCYANIN

[1] 1= Absent 2=Present

B. WAXY BLOOM

[1] 1=Absent 2=Present

C. HAIRINESS (last internode of rachis)

[1] 1=Absent 2=Present

D. INTERNODE (SPECIFY NUMBER)

[1] 1= Hollow 2=Semi-solid 3=Solid

E. PEDUNCLE

[2] 1=Absent 2=Present

[19] cm Length

11. HEAD (at Maturity):

A. DENSITY

[2] 1=Lax 2=Middense 3= Dense

B. SHAPE

[1] 1 = Tapering 2= Strap 3 = Clavate 4 = Other (SPECIFY):

C. CURVATURE

[1] 1 = Erect 2 = Inclined 3 = Recurved

D. AWNEDNESS

[4] 1 = Awnless 2 = Apically Awnletted 3 = Awnletted 4 = Awned

12. GLUMES (at Maturity):

A. COLOR

[1] 1 = White 2 = Tan

3 = Other (SPECIFY): Sometimes partial pseudo black chaff darkening

B. SHOULDER

[3] 1 = Wanting 2 = Oblique 3 = Rounded 4 = Square 5 = Elevated 6 = Apiculate

C. BEAK

[3] 1 = Obtuse 2 = Acute 3 =Acuminate

D. LENGTH

[3] 1 = Short (ca. 7mm) 2 = Medium (ca. 8mm) 3 = Long (ca. 9mm)

12. GLUMES (at Maturity) *Continued*:

E. WIDTH

[3] 1 = Narrow (ca. 3mm) 2 = Medium (ca. 3.5mm) 3 = Wide (ca. 4mm)

13. SEED:

A. SHAPE

[1] 1 = Ovate 2 = Oval 3 = Elliptical

B. CHEEK

[1] 1=Rounded 2=Angular

C. BRUSH

[1] 1=Short 2=Medium 3=Long

[1] 1 = Not Collared 2 = Collared

D. CREASE

[1] 1 = Width 60% or less of Kernel
2 = Width 80% or less of Kernel
3 = Width Nearly as Wide as Kernel

[1] 1 = Depth 20% or less of Kernel
2 = Depth 35% or less of Kernel
3 = Depth 50% or less of Kernel

E. Color

[3] 1=White 2= Amber 3= Red
4= OTHER (Specify)

G. PHENOL REACTION *(see instructions)*:

[5] 1 = Ivory 2 = Fawn
3 = Light Brown 4 = Dark Brown
5 = Black

F. TEXTURE

[1] 1=Hard 2=Soft

14. DISEASE: (0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)

PLEASE INDICATE THE SPECIFIC RACE OR STRAIN TESTED

[0] Stem Rust *(Puccinia graminis* f. sp. *tritici)*

[2] Stripe Rust *(Puccinia striiformis)*
Field strains

[0] Tan Spot *(Pyrenophora tritici-repentis)*

[0] Halo Spot *(Selenophoma donacis)*

[0] *Septoria nodorum* (Glume Blotch)

[0] *Septoria avenae* (Speckled Leaf Disease)

[2] *Septoria tritici* (Speckled Leaf Blotch)
California Isolate CA 30
and field strains

[0] Scab (*Fusarium* spp.)

[2] Leaf Rust *(Puccinia recondita* f. sp. *tritici)*
CBTB, MGBL, TDGL, FCDL, KFCL, TLGG

[0] Loose Smut *(Ustilago tritici)*

[0] Flag Smut *(Urocystis agropyri)*

[0] Common Bunt *(Tilletia tritici* or *T. laevis)*

[0] Dwarf Bunt *(Tilletia controversa)*

[0] Karnal Bunt *(Tilletia indica)*

[0] Powdery Mildew *(Erysiphe graminis* f. sp. *tritici)*

[0] "Snow Molds"

14. Disease *(Continued)* (0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)

PLEASE INDICATE THE SPECIFIC RACE OR STRAIN TESTED

[0]	"Black Point" (Kernel Smudge)	[0]	Common Root Rot *(Fusarium, Cochliobolus* and *Bipolaris* spp.*)*
[3]	Barley Yellow Dwarf Virus (BYDV) Field scores	[0]	Rhizoctonia Root Rot *(Rhizoctonia solani)*
[0]	Soilborne Mosaic Virus (SBMV)	[0]	Black Chaff *(Xanthomonas campestris* pv. *translucens)*
[0]	Wheat Yellow (Spindle Streak) Mosaic Virus	[0]	Bacterial Leaf Blight *(Pseudomonas syringae* pv. *syringae)*
[0]	Wheat Streak Mosaic Virus (WSMV)	[ ]	Other (SPECIFY)
[ ]	Other (SPECIFY)	[ ]	Other (SPECIFY)
[ ]	Other (SPECIFY)	[ ]	Other (SPECIFY)
[ ]	Other (SPECIFY)	[ ]	Other (SPECIFY)

15. INSECT: (0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)

PLEASE SPECIFY BIOTYPE (where needed)

[0]	Hessian Fly *(Mayetiola destructor)*	[ ]	Other (SPECIFY)
[0]	Stem Sawfly *(Cephus* spp.)	[ ]	Other (SPECIFY)
[0]	Cereal Leaf Beetle *(Oulema melanopa)*	[ ]	Other (SPECIFY)
[0]	Russian Aphid *(Diuraphis noxia*	[ ]	Other (SPECIFY)
[0]	Greenbug *(Schizaphis graminum)*	[ ]	Other (SPECIFY)
[0]	Aphids	[ ]	Other (SPECIFY)

16. ADDITIONAL INFORMATION ON ANY ITEM ABOVE, OR GENERAL COMMENTS

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
The Regents of the University of California	UC 1036	Kern
4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*	**5. TELEPHONE** *(include area code)*	**6. FAX** *(include area code)*
1111 Franklin Street, 12th Floor Oakland, California 94607-5200	(501) 587-6000	(510) 587-6090
	7. PVPO NUMBER 200000047	

8. Does the applicant own all rights to the variety? *Mark an "X" in appropriate block.* If no, please explain. [X] YES [ ] NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company? [X] YES [ ] NO
If no, give name of country

10. Is the applicant the original owner? [X] YES [ ] NO *If no, please answer one of the following:*

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

[ ] YES [ ] NO If no, give name of country

b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company?

[X] YES [ ] NO If no, give name of country

11. Additional explanation on ownership *(if needed, use reverse for extra space)*:

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.

2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.

3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.